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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Xiaohe Chen, et al.  
Serial Number: 10/775,660  
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Title: INK COMPOSITIONS FOR INK-JET  
PRINTING

**DECLARATION PURSUANT TO 37 C.F.R. § 1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, George M. Sarkisian, hereby declare the following:

1. I am a co-inventor of the above-identified application.
2. I am a citizen of the United States residing in San Diego, California.
3. I received a B.S. in Chemistry from Drexel University in Philadelphia, Pennsylvania, in 1968.
4. I received a PhD in Chemistry from Temple University in Philadelphia, Pennsylvania, in 1975.
5. I performed my post doctoral work at Temple University in organic photochemistry of corticosteroids.
6. I joined Hewlett-Packard Company in 1999, where I have been working on ink formulations to include print durability and pen reliability for about nine years.

I, Xiaohu Chen, hereby declare the following:

1. I am a co-inventor of the above-identified application.
2. I am a citizen of the United States residing in San Diego, California.
3. I received a B.S. in Chemistry from Fudan University in Shanghai, China, in 1985.
4. I received an M.S. in Chemistry from the University of Massachusetts in North Dartmouth, MA, in 1992.
5. I received a PhD in Chemistry from the University of Connecticut in Storrs, CT, in 1996.
6. I joined Hewlett-Packard Company in 1998, where I have been working on ink formulations to include print durability and pen reliability for about ten years.

We declare the following -

1. After reviewing the Waki reference (U.S. Patent Publication No. 2004/0242736), we submit that the resin including the urethane bond is used in combination with the water-soluble resin as a suitable pigment dispersant for the ink composition. See, for example, the following quote from paragraph [0069] of Waki:

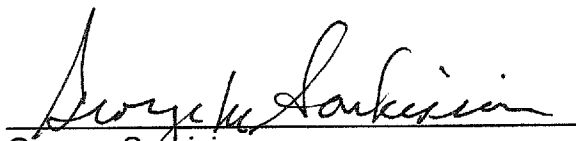
The present invention is characterized by using a combination of the above-mentioned water-soluble resin and the resin having an amide bond and/or a urethane bond. An adding method is not limited, but preferably the water-soluble resin is first added to a pigment. Thereafter, the mixture is subjected to the following kneading step to form a dispersion having the pigment dispersed therein, and then it is preferable to add the resin having an amide bond and/or a urethane bond to the dispersion. It is preferable to carry out the following crosslinking treatment before or after adding the resin having an amide bond and/or a urethane bond. Particularly, it is preferable to carry out the crosslinking treatment after adding the resin having an amide bond and/or a urethane bond. It has been found that dispersion stability and gloss are

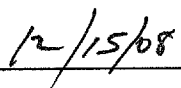
remarkably improved by adding the resins in this manner. More specifically, the resin including the urethane bond is used as a second polymer to form a coating on the pigment by cross-linking the resin with the water-soluble resin that is firmly fixed onto the pigment surface. Such combination is used in the ink composition to improve dispersion stability and gloss.

2. In sharp contrast to Waki, in the ink composition of the instant application (Patent Application Ser. No. 10/755,660) as recited in amended claim 1, the polyurethane resin is *not* a pigment dispersant because the pigment is self-dispersed. We submit that it is generally known by those skilled in the art that self-dispersed pigments do *not* need pigment dispersants.

3. Our instant specification as filed also provides another embodiment of the ink composition (not covered by our amended claim 1 as filed concurrently herewith) that includes unmodified pigments dispersed in a dispersant (see page 9, line 12 through page 10, line 3 of our specification as filed). A list of pigment dispersants that may be used to disperse the pigment in this embodiment of the ink composition is also provided at page 9, line 13 through page 10, line 3 of our specification as filed. Polyurethane is not included in this list of dispersants.

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and, that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

  
George Sarkisian

  
Date



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Xiaohe Chen

12-15-08

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Date